

# NAVY MEDICINE

November-December 2004



 *Force Health Protection*

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**Staff Writer**  
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**Book Review Editor**  
LCDR Y.H. Aboul-Enein, MSC, USN

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COVER: Hospital corpsmen and medical officers assess a car accident victim during a simulated extraction evolution at the Los Angeles County—University of Southern California Medical Center. The students are part of an outreach cooperative training program between Navy medicine and the Medical Center. Story on page 17. Photo by PH2 Class Johansen Laurel.

# Admiral's Call

**H**aving assumed duties as Navy Surgeon General, I want to convey how impressed I am with Navy medicine's professionalism and commitment to excellence. It is an honor to lead such an impressive organization. I am thankful for this privilege!

Navy medicine exists to support the Chief of Naval Operations and Commandant of the Marine Corps' vision for the Navy-Marine Corps team. We are entrusted with a tremendous responsibility—the health of our Sailors, Marines, families, and retirees. We provide highly skilled, operationally agile, and combat-ready forces that ensure our Sailors and Marines are physically and mentally ready for the challenges of deployment.

More than 9,600 Navy medical personnel have deployed in support of the global war on terrorism, including 2,700 personnel presently on station in Iraq and Afghanistan. Over 8,000 medical personnel support

operational missions aboard Navy ships and in the field with the Marine Corps, and over 10,000 personnel support operations aboard hospital ships and in fleet hospitals.

We are at war against threats that demand our best efforts and innovative leadership. Our nation has accepted a "new normal" since the terror attacks of 2001. Navy medicine must be ready whenever and wherever we are called upon to serve—aboard ship, on foreign soil, and here at home.

You will find Navy medicine's vision and priorities, which will serve to guide our efforts on page 21.

Navy medicine remains completely dedicated to our honorable calling. We will continue our best efforts as we work to provide Force Health Protection for the Navy and Marine Corps in the era of the war on terrorism.

**Vice Admiral Don Arthur, MC, USN**  
**Surgeon General of the Navy**



Central Command Area of Responsibility (1 April 2003) — HM3 Travis P. Deel, bandages an injured enemy prisoner of war wounded during a firefight. U.S. Marine Corps photo by SGT Kevin R. Reed.



# Navy Medicine Expands Malaria Vaccine Development Efforts

A team of Navy and civilian researchers recently formed a partnership to expand Navy medicine's malaria vaccine development program.

The Naval Medical Research Center (NMRC) in Silver Spring, MD, and GenVec, a biopharmaceutical company, in Gaithersburg, MD, signed a 2-year cooperative research agreement 31 March 2004 to develop and evaluate adenovirus-based malaria vaccine candidates. Major funding is provided by the Malaria Vaccine Initiative (MVI), part of the Bill and Melinda Gates Foundation.

"This is a natural follow-on to our molecular vaccine development program," said Dr. Denise Doolan, Head of the NMRC Malaria program's pre-clinical research and development efforts. "This agreement represents a unique partnership of government, industry, and the public-sector."

The preclinical studies will bring together GenVec's unique vaccine delivery system and NMRC's expertise in malaria and vaccine development.

Using a laboratory model, Navy researchers will test several vaccines that include a combination of specific proteins expressed in different stages of the malaria parasite's complex life cycle.

"The parasite's genome contains over 5,300 proteins," said Doolan. "We are looking at five of those proteins in this study. Three of these are expressed in the liver-stage of the parasite and two others are expressed in the blood stage."

The goal of these multi-stage vaccines is to prevent infection or decrease the clinical symptoms of the disease. Many believe long term success in malaria vaccine development will require such a multi-stage, multi-antigen approach. Success in the pre-clinical efforts is expected ultimately to result in the testing of a multi-stage adenovirus malaria vaccine in future clinical studies in humans.

"Malaria is a serious threat to troops stationed in endemic areas," said Doolan. "In all conflicts during the past century conducted in malaria endemic areas, malaria has been the

leading cause of casualties, exceeding enemy-inflicted casualties in its impact on person-days lost from duty."

"This was highlighted by the deployment of the 26th Marine Expeditionary Unit to Liberia last year where casualty rates of 28 to 44 percent with troops stationed in Liberia with as little as 10 days of exposure to the malaria parasite," she added.

According to the World Health Organization, over one million deaths from malaria occur worldwide each year—90 percent in Africa, south of the Sahara.

An effective vaccine will be an essential element in the fight against malaria since the parasite continues to develop resistance to anti-malarial drugs and the mosquitoes develop resistance to insecticides. □

—Story by Doris M. Ryan, Public Affairs Officer, Bureau of Medicine and Surgery (M00P1), Washington, DC.



# Winning Hearts and Minds in the Horn of Africa

LCDR Frank H. Stubbs, III, MSC, USN

Since September 2003, Expeditionary Medical Unit-10, has been an integral part of U.S. Marine Corps Forces Central Command, Djibouti (MARCENT-DJ), Africa, in support of Operation Enduring Freedom. The mission of the U.S. military and coalition forces assigned to Camp Lemonnier, Headquarters for the Combined Joint Task Force-Horn of Africa (CJTF-HOA) and MARCENT-DJ is two-fold. First and foremost, U.S. and coalition forces involved in the war on terrorism in this desert region of the African continent provide vital intelligence, personnel, equipment, and assets for use on the air, ground, and sea in a unified quest to seek out and destroy terrorists and those sympathetic to their causes.(1) A second and equally important mission involves providing humanitarian assistance to thousands of local inhabitants in an effort to win the hearts and minds of the host country citizenry.

Members of Expeditionary Medical Unit-10 (EMU-10) first deployed to Djibouti in early September 2003 to establish a Level III medical capability in the Horn of Africa area of responsibility (AOR). Composed primarily of Fleet Hospital Jacksonville medical personnel but includ-



SGT Aaron Mancho, USA, MARCENT-DJ S-6, reviews the alphabet with the younger children at the Djibouti Girl's Orphanage.

ing physicians, nurses, and hospital corpsmen from Naval Medical Center Portsmouth and Naval Hospital Charleston, EMU-10 has earned its place in Navy medicine history. This facility has matured from a forward deployed medical unit operating out of BASEX tents and connexes into a new, million dollar brick and mortar facility named in honor of a Marine Corps aviator killed in the line of duty in the AOR.(2) Members of EMU-10

provide a range of medical services to the men and women comprising CJTF-HOA. The EMU is staffed and equipped to provide services ranging from routine sick call screening to managing patients requiring general and orthopedic surgery. A recently installed state-of-the-art digital telera-diology system enables patient X-rays taken in Djibouti to be reviewed by a staff radiologist at the National Naval Medical Center in Bethesda, MD.

When not taking care of patients at Camp Lemonier, EMU surgeons and anesthesia providers work side-by-side with French Army surgeons at the Bouffard French Army Hospital, located 5 miles from the Camp Lemonier main gate.

An important part of the EMU's evolving mission in Djibouti, a role that has been assumed voluntarily, is the support that members of the EMU provide to local orphanages. Prior to the Christmas holidays in 2003, members of EMU Alpha Team, the first group from Jacksonville to deploy to Djibouti for a 6-month rotation, organized a shoes and athletic equipment drive for the children at the Djibouti Boy's Orphanage. Within 5 weeks after the request for donated items was made, more than 100 pairs of new and used sneakers and athletic shoes and a variety of sports equipment was donated by members of Naval Hospital Jacksonville and sent to the Alpha Team for distribution to the deserving boys at the orphanage. The success of the shoes and athletic equipment drive inspired EMU members to volunteer their off-duty time at the Boy's Orphanage where Alpha Team members taught the boys how to play baseball and at the local Baby's Orphanage, where hospital corpsmen helped nurses feed babies and change the infants' diapers. The Djibouti Girl's Orphanage, however, remained largely neglected by the EMU until the Bravo Team assumed the responsibility of running the EMU in February 2004.

### **The Importance of Winning Hearts and Minds**

Two weeks after arriving in Djibouti in mid-February 2004, EMU-10 Bravo Team members had fully assumed control of the 10-bed Michaud Medical and Dental Facility from

their Alpha Team predecessors. Staff members knew how to navigate their way through and around the 80-acre Camp Lemonier complex and had met points of contact from the many tenant organizations aboard the base. Staff members had successfully conducted their first mass casualty drill, were seeing a hundred patients every week, and had acclimatized to the arid and unforgiving Djiboutian climate. What the Bravo Team needed at this point in their deployment was a productive extracurricular outlet for their energies.

The words of former CJTF-HOA commanding general BGEN Mastin M. Robeson provided the impetus several of the Bravo Team members needed. During his welcome aboard remarks to the Bravo Team a week earlier, BGEN Robeson commented how important it was for CJTF-HOA forces to support the efforts of capturing and prosecuting terrorists, many of whom were in hiding and operating in Djibouti, neighboring Somalia, and other countries in the Horn of Africa. The general also remarked on the importance of winning the hearts and minds of the Djiboutian people in such a way that would discourage them from being sympathetic with and supportive of terrorist factions and instead promoting the ideas of freedom, democracy, self-sufficiency and ultimately, economic prosperity. Once the Djiboutian people become openly receptive to western ideas and thought, particularly American ideology and customs, American businesses would be more inclined to invest resources and capital into Djibouti.

A cord was struck with these remarks and it resonated through the EMU instantly. The following Friday afternoon, three Bravo Team members ventured out to the Djibouti

Girl's Orphanage for the first time as volunteer English language teachers. An English language-teaching program had been established at the orphanage a year earlier, but participation in the language program had fallen. The program was in danger of becoming defunct, but for the support provided by the EMU. This initial visit would be the first of 20 Friday afternoon visits that members of the EMU would make during the course of their 26-week deployment and it would prove to transform the 200 Girl's Orphanage's residents, as well as the EMU volunteers, in ways that initially seemed unimaginable.

### **Teaching English and American Culture**

Djibouti is a country marked by stark contrasts. With few natural resources, little industry, and summertime temperatures that soar in the high 130s, Djibouti must import practically all of what it consumes.

French, Arabic, Somali, and Afar are the most widely spoken languages in this country of approximately 467,000 people. The literacy rate is just over 68 percent nationwide and nearly 59 percent for the female population.

An annual gross domestic product of \$1,300 and an unemployment rate of 50 percent underscores the level of poverty that is immediately apparent outside the gates of Camp Lemonier. Camels, wild dogs, and hyenas can be seen combing the rock and sand covered landscape for food while many local inhabitants live in squalor in lean-to shacks and ramshackle huts.

Once a thriving French colony, today Djibouti resembles the aftermath of a war ravaged state. Automobile wreckage, plastic refuse, and abandoned buildings dot the countryside. In the midst of this abject scenario,

one will see a family of four speeding by in a shiny, new Mercedes Benz SUV on their way to Al Gamil's, a local supermarket/department store resembling K-Mart or Wal-Mart.

Prior to visiting the Djibouti Girl's Orphanage for the first time, two of the three EMU volunteers had never before visited an orphanage in a foreign country or in the United States, for that matter. The older children at the Girl's Orphanage, like most Djiboutians, spoke fluent French and Arabic. When the EMU group arrived at the Girl's Orphanage, they were immediately swarmed by girls of all ages screaming, "Me, me, me!" The children had become accustomed to having their pictures taken by American troops during earlier visits. When asked to take their seats in one of four dilapidated classrooms, the children demonstrated enthusiastic, yet boisterous behavior.

The EMU volunteers were completely unprepared with the conditions they encountered at the orphanage. Classrooms were in dire need of the basic school supplies. Although blackboards were present in every classroom, there was no chalk or an eraser in sight. Classroom floors were littered with torn pages from books, dilapidated furniture, and pieces of broken glass, and candy wrappers. Walls were stained, dirty, and in need of a fresh coat of paint. Fluorescent lights were burned out, the air was stifling, and the temperature indoors was only a few degrees cooler than the 128 degrees Fahrenheit outside. The 40 or so children that had gathered in the classroom, however, seemed eager to learn whatever the volunteers were willing to teach. And so it began.

Interest among EMU staff members increased, with volunteer numbers increasing from an initial group of 3 personnel to 12 volunteers.

Among those participating on a weekly basis were Navy corpsmen, a nurse, and an MSC hospital administrator. Two CJTF-HOA soldiers, an Army JAG officer, and an information management sergeant later joined the group of regular Girl's Orphanage volunteers.

Orphanage visits for the following 2 months were characterized by a continuous improvement in the way English language and American culture classes were taught.

At the beginning, EMU volunteers essentially taught classes without benefit of a lesson plan or goal in mind, other than to teach the girls some basic English words and conversation. This "winging it" approach quickly proved to be ineffective; EMU instructors quickly ran out of ideas on what to teach. It was not easy keeping a room full of energetic, non-English speaking school-age children gainfully occupied without a plan of instruction.

The girls, ranging in age from 3 to 17 years, were initially taught in one crowded classroom. The older girls generally spoke up the loudest and quickly raised their hands, eager to respond whenever an instructor would ask a question. The tendency of the older girls to dominate the 1-1/2-hour-long English classes caused the younger girls to withdraw and lose interest in that day's lesson. It soon became apparent that a change in class size was needed. EMU volunteers decided to divide the class, which had grown to more than 100 students, into two groups according to age. The older girls, ages 12-17, were taught in one classroom while a second classroom housed the younger children. Not surprisingly, this worked out well.

Concurrent with the change in class composition came the devel-

opment of a lesson plan for each Friday afternoon's class. A separate course of instruction was developed for both classes, with every instructor briefed on that day's activities before arrival at the orphanage. The younger children were taught how to recite their ABCs, numbers, days of the week, and everyday words in English. Nursery rhymes and songs were used to reinforce that day's instruction. In addition to basic English language instruction, basic arithmetic was also reviewed with the younger children. Each child was routinely asked to come up to the blackboard and solve equations using addition and subtraction.

While the younger children were being coached through their ABCs and arithmetic problems, the older girls were taught more complex word games, conversation starters, etiquette, and tutored in algebra. EMU instructors became accustomed to teaching a specific age group and the girls became equally accustomed to receiving instruction from the same instructors week after week. EMU instructors could soon address many of the students by name—"Emily," "Fihima" and "Deca" and the girls addressed the instructors by their names as well—"Mr. Alan" and "Miss Veronica."

Each week's lesson plan included a snack period in the middle of the afternoon and a recreational period at the end of class, with EMU instructors providing cookies, granola bars, bottled water for refreshment, and sporting equipment for playground activities. Orphanage children were taught how to play jacks, Double Dutch jump rope routines, soccer, and basketball, typical American elementary school playground activities. To capture that day's activities for posterity, digital photos were taken during



each day's visit, but without the girls clamoring for a photo opportunity. By the time of the EMU's tenth orphanage visit, the initial minor hysteria and shouting of "Me, me, me!" had diminished. Instead, the children would politely say, "Please, my picture!" The children were learning civility and English at the same time.

The dearth of school supplies that initially hindered instruction was quickly resolved as boxes of chalk, erasers, crayons, coloring books, writing tablets, colored pencils, and other essentials made their way to Djibouti. After the first visit, EMU volunteers organized a long distance drive for school supplies, shoes, and clothing to benefit the orphanage's 200 residents. Within several weeks after the request was made, volunteers received over 30 boxes full of school supplies, new and used shoes, personal hygiene items, and clothing from supporters in Jacksonville, FL, and Charleston, SC. Each child at the Girl's Orphanage was presented with a new toothbrush, a tube of toothpaste, a new pair of shoes, a toy, stuffed animal, or article of clothing, and a notebook and pencil. EMU volunteers also raised money locally and ordered educational items such as word puzzles, alphabet banners, and posters via the Internet from school supply stores.

### **Looking Toward the Future**

After 19 weekly visits to the Girl's Orphanage, EMU-10 Bravo Team volunteers knew that their time at the orphanage was coming to an end. Several of the regular volunteers wondered if they had made any impact on the girls at the orphanage and hoped privately that each child would achieve success and happiness in their personal lives. Despite the fact that these children have no parents,

share all their personal possessions with each other, and live in austere surroundings, they all possess a thirst for knowledge, an obvious love of life, and are well provided for by the handful of adults who provide support services for them. This particular orphanage, in fact, has a number of success stories to its credit. Several of the children have enlisted in the French Army through a Junior ROTC-type of program that exists locally. Others have gone on to study at universities in France and have become magistrates, schoolteachers, and civil servants in France and Canada.

As a way of saying good-bye to the many children that the EMU English teachers had come to know and respect, the volunteers organized a farewell party. On the day of their last visit, 12 volunteers arrived bearing an assortment of snack foods, chilled bottled water, and juice. To the amazement of the American volunteers, the older girls were dressed in beautiful traditional African dresses and scarves, while the younger girls wore colorful matching dresses. Clearly, the girls were wearing their finest garments as tribute to their American teachers. The classroom floors had been swept, furniture neatly arranged, and the walls decorated with drawings that the children had made for the occasion. The children appointed one of the older girls to present the head of the EMU team with a letter, written in French and in English.

SGT Aaron Mancho, a U.S. Army information management specialist and regular orphanage volunteer, translated the letter and read it aloud to the group. If the EMU volunteers were still wondering whether their time at the orphanage had made a difference in the lives of these girls, any doubts were quickly dispelled. Here is an excerpt from that letter:

*We hope that you will always remember us. We will never forget you.*

*Thank you for taking time to teach us English and some of your customs.*

*You have been very kind and generous to us.*

*We hope that someday, we will see you again.*

*Please send us pictures of your own children. We would like to see them.*

Fortunately, the EMU's work at the Girl's Orphanage will continue. Members of the EMU-10 Charlie Team arrived in Djibouti in early August to relieve the Bravo Team and enthusiastically embraced the Girl's Orphanage as one of their community service projects.

Though provided its primary financial support by the government of the Republic of Djibouti, the Girl's Orphanage is in constant need of girl's shoes in all sizes, personal hygiene items such as toothbrushes, toothpaste, soap, and hand lotion, and picture books written in English for ages 4 through 10. If you would like further information on how to support the EMU's efforts at the Djibouti Girl's Orphanage, contact LCDR Frank Stubbs at (904) 542-7309 or e-mail: frank.stubbs@sar.med.navy.mil.

### **References**

1. United States Central Command website, "International Contributions to the War on Terrorism."
2. Michaud Medical and Dental Facility, named in honor of Captain Seth R. Michaud, a U.S. Marine Corps pilot who was killed during a military exercise on 23 June 2003 in Djibouti when an Air Force B-52 dropped nine M117 general-purpose bombs during a practice mission. □

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LCDR Stubbs is Head of the Operations, Management, Plans, Operations and Medical Intelligence Department at Naval Hospital Jacksonville, FL.

# A GI Christmas

## December 1977

LT Brent E. White, MSC, USN (Ret.)

Christmas time for a GI far away from home can be a very lonely time. Yet the spirit of Christmas has a magical way of weaving itself into the fabric of one's life. Such was my lot, and my enlightenment, as I huddled in Sick Bay next to the kerosene stove as a chill drizzle dampened our remote little mountain-top posting. It was Christmas Eve at the Northern Training Area (NTA) in Okinawa, Japan, 1977.

The small cadre of Marines, with which I had the honor of serving, and I were in a "down" time, having sent the last group of trainees home for the holiday season. But for us instructors, this was our home. None of us were what others would call jolly fellows, even in the best of times. We were warriors with very serious responsibilities.

MGYSGT "Top" Ruffo had been left in charge of things while Charlie Oscar (the commanding officer) had gone south to glory in holiday cheer with his family. Top Ruffo was a tough little Italian—every bit the Roman legion soldier. He could hew any man down to size with just a few well-chosen and gruffly uttered words. A veteran of previous wars, he had earned all of our unquestioned respect and loyalty.

SGT Hodges was "a long, tall Texan—and he is the law!" He was well known throughout the Special

Forces community for his exploits. We were all always especially nice to him because of his vitriolic temperament that burst forth at the slightest provocation. With practice, one could learn to predict his temper by the set of his big, square jaw. We called him "Hedge-Hodge" due to his prickly personality.

SGT "Buddha" (I've forgotten his real name) had an angelic face set atop a Mr. Universe body. His smile could call forth a heavenly choir to perch upon his bald head which he meticulously shaved every morning. I do believe that he genuinely enjoyed biting the head off a chicken, as he did for an "attention grabber" before every class in jungle survival that he taught.

SGT Jones, a.k.a. "Sasquatch" was a giant of a man chiseled from glossy ebony. One of the top rated black-belt karate experts in the Marine Corps, he had the soul of a poet—as long as he did not overhear you call him Sasquatch! I had seen him nearly moved to tears as he eloquently illustrated, with prose, how he stomped his last karate opponent.

PVT Martha was our driver. He survived as a street urchin in the streets of Beirut among the bombed out buildings of his homeland before a relative brought him to the United States. He was the most ardently patriotic man I have ever known. His

nose had been broken sometime in the past, causing it to be radically deviated to the right. One could say that his nose was permanently out of joint. He drove with abandon. We merely called him Martha, since a girl's name seemed the perfect moniker for this tough little Arab.

The others usually called me "Doc Blade", because at over 6 feet tall and 145 pounds, while wearing Marine-Green, I looked like a blade of grass. I was noted for being somewhat of a cynic, probably a result of all the "turkeys" who passed through my sick bay trying to get a light duty chit (no-one ever gets one) to escape the rigorous rough terrain and jungle survival training.

I was well on my umpteenth game of solitaire, singing "Counting flowers on the wall, that don't bother me at all . . . now don't tell me, I've got nothing to do!" on Christmas Eve when Top Ruffo stuck his head through the sick bay door and grumbled, "You got the midwatch, Blade. While you're at it, keep a look out for Christmas, why don't cha! It might just show up on your watch."

The midwatch has always been a no-brainer—just managing to stay awake and making sure the place didn't burn down. Finding Christmas in this God-forsaken place amidst this motley crew would be a tough order to comply with, however.

I was contemplating this in the wee hours of Christmas morning when the notion crept into my noggin that perhaps that little juniper tree down by the latrine could serve as a Christmas tree. So I grabbed my K-bar knife and headed out to the latrine to cut it down. I was hacking away at it when Hedge-Hodge exited from the latrine.

“Whatcha doin’, Blade?”

“Top said I had to look for Christmas.”

“Even Charlie Brown would turn his nose up at that tree, Blade!”

“Got any better ideas?”

“Na . . . let me help ya.”

So the two of us chopped down our little tree and hauled it back up to the command post (CP). We then played Spades while we shot the breeze about Christmas past, with our little tree forgotten in the corner. As I turned up a joker from our deck of 51 cards, the glimmer of a notion began to sparkle.

“Hey, Hedge-Hodge, maybe we could cut the jokers, kings, queens, jacks, and aces out of this deck of cards and string them up for Christmas tree ornaments?”

“Yeah, Blade, but we can’t use these, you got your grimy finger prints all over them. Maybe we can talk Martha into opening up the Gee Dunk (camp store) so we can get a couple of new decks of cards.”

So off we went to roust Martha out of bed at 2:00 in the morning. Needless to say, he was NOT amused. But he did take Top’s order that we keep an eye out for Christmas seriously. So, grumbling all the way, we dashed through the rain to the Gee Dunk.

“Don’t worry about paying for them, Blade, its Christmas. Hey, Hedge-Hodge, what do you think about popping some popcorn and stringing it up for the tree?”

“Yeah, right, and how am I going to do that without waking up Buddha? You know we share a hooch, and my foot locker with my sewing kit is under our bunk.”

“Well, get him up, too, and tell him Top Ruffo ordered us all to look out for Christmas.”

So it was that at 3:00 in morning Martha and I were cutting kings and queens, aces, jacks, and jokers out of decks of cards while Hedge-Hodge diligently strung popcorn. Buddha had joined us (after shaving his head, of course) and was fashioning a little paper angel doll to top our tree. I can only imagine how we all looked, that night, me in my Marine Greens, Hedge-Hodge in his skivvies, Martha in his red night shirt, and Buddha in his sweat pants as we worked together to decorate our little Christmas tree. It must have been a sight, judging from the expression on Sasquatch’s face as he entered the CP to relieve my watch

and assume the duty. But the spirit of Christmas was contagious.

“Hey guys” said Sasquatch, “You know any Christmas Carols?”

“You mean like ‘Jingle Bells, shotgun shells’.” croaked Martha?

“No, no, NO!!” lamented Sasquatch. He then began to sing “Silent Night” in such a rich, melodious baritone that it warmed the heart of every one of us. We greeted Christmas morn with an exuberant round of “God Rest Ye Merry Gentlemen!” around our gloriously decorated Christmas tree.

It was then that Top Ruffo blustered into the CP.

“Well, Blade, it looks like you found Christmas! Now everyone get out of here, I got some top-secret stuff to take care of!”

We carried the Christmas cheer with us through the day until, about noon, we heard the call over the loud-speaker to go to flight quarters and meet the helicopter at the landing zone. Imagine our surprise when we saw Santa Claus at the controls of the chopper as it landed. It was then that we discovered MGYSGT Ruffo’s Christmas present to all of us—the USO tour of Miss America and her bevy of beauties to join us for Christmas dinner, at our home-away-from-home. □

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LT White is Comptroller for Naval Dental Center, Northwest, Bremerton, WA.



Martha

Photo courtesy of author



# A Few Notes on Grog

What does one do with a drunken sailor? Maybe this is not a question that Heraclites pondered as he crossed the same river twice but this certainly was an issue that perplexed many in the 19th century U.S. Navy during the so-called days of “grog” rationing. It’s hard to believe there was a time when our ships carried alcohol as a more salubrious substitute to plain water and just as there were rations of food, there was a ration of “grog,” a mixture of alcohol (usually rum or whisky) and water. The exact origins for this peculiarly named concoction dates back to the 1740s and British Admiral Edward Vernon, a man known throughout the British navy as “Old Grog” for his habit of wearing a grogram cloak.\* Besides serving as the namesake of George Washington’s estate on the Potomac River, “Old Grog” was purportedly the first to order a daily half pint of rum mixed with a quart of water to remedy the abuses of rum drinking.\*\*

Along with flogging and the use of the oak leaf as a symbol, many of the practices of the British fleet

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\*Grogram cloak was a garment made of coarse fabric of silk and mohair.

\*\*Mount Vernon was originally the home of George Washington’s half brother Lawrence, who served under Edward Vernon in the British Royal Navy.

were incorporated into the early U.S. Navy. In staying this course, Congress approved of a rum ration for Navy vessels that was soon substituted by grog. This did little to dampen the flaring temperance movement that sought eradication of all alcohol on naval vessels. In 1810, taking heed of the opposition to grog, Secretary of the Navy Paul Hamilton proposed that grog be forfeited by men for minor infractions of discipline, and all losses of pay as the result of a court martial be sent to the Navy Hospital Fund (a.k.a., Marine Hospital Fund) to establish hospitals exclusively for men of the Navy.(1)

Grog rations were deemed the cause of many evils aboard ships. It was even blamed for the brutal practice of flogging (again, what does one do with a drunken sailor?) Throughout the 1820s, temperance groups besieged Congress petitioning for the abolishment of the grog ration in the Army and Navy to the extent that Congress asked Secretary of the Navy John Branch to institute an inquiry into the effects of grog on midshipmen. Three of the most prominent Navy surgeons of the day, Lewis Heermann, William P.C. Barton, and Thomas Harris spearheaded this investigation and came to the conclusion that the ration was unnecessary and harmful to morals and

Recipe for Grog  
1 shot rum  
1 tspn sugar  
Squeeze of lime juice  
Cinnamon stick  
Boiling water  
Stir all ingredients, adding  
enough boiling water to fill  
mug or glass

health. Harris went as far as to say that tea and coffee should be substituted, but conceded that many old Sailors would never agree to it. Not long after, in the pamphlet “Practical Reflections upon the Grog Ration of the U.S.,” Navy doctor William Wood would argue that the ration made men irritable, promoted insecurity, was physically harmful, and was directly or indirectly responsible for diseases that placed chronic invalids in hospitals at government expense. This was not to mention that it constituted a fire hazard on board frigates.

Beginning in 1831, Levi Woodbury, the new Secretary of the Navy, issued a circular stating that all persons wishing to relinquish their rations be compensated 6 cents per ration (or roughly a dollar a month), hoping that greed would be an addiction outweighing alcoholism.(2) Truth be told, grog’s days of glory



Old Salts "spinning a yarn" aboard USS Enterprise, circa 1887.

GENERAL ORDER NO. 99  
NAVY DEPARTMENT  
Washington, D.C., June 1, 1914

CHANGE IN ARTICLE 827, NAVAL INSTRUCTIONS  
On July 1, 1914, Article 827, Naval Instructions, will be annulled and in its stead the following will be substituted:  
"The use or introduction for drinking purposes of alcoholic liquors on board any naval vessel, or within any navy yard or station, is strictly prohibited, and commanding officers will be held responsible for the enforcement of this order."

JOSEPHUS DANIELS  
Secretary of the Navy

were numbered. In 1842, under the pressure of temperance groups, the Navy cut the grog ration in half and substituted coffee, cocoa, tea, and even pickles! Sailors under 21 were altogether prohibited from any form of alcohol.(3)

Grog's official death knell rang out on 14 July 1862, by a General Order approved by Congress. According to the Order, which became effective on 1 September 1862, "the spirit ration in the Navy of the United States shall forever cease, and thereafter no distilled spirituous liquors shall be admitted on board vessels-of-war, except as medical stores and

upon the order and under the control of the medical officers of such vessels, and to be used only for medical purposes."(4) Somehow, this did not minimize the abuse of alcohol in the fleet. The Navy needed another general order (GO of July 1914) "strictly" prohibiting alcohol aboard all Navy vessels.(5)

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—Story by André B. Sobocinski, Assistant Historian and staff writer for Navy Medicine, Bureau of Medicine and Surgery (M00H), Washington, DC.



# Charlie Med A Physician's Vietnam Journal

CAPT William B. Mahaffey, MC, USN (Ret.)

## Part IV

Early 1966 still found Charlie Med's surgical teams laboring daily in the two cramped ORs that had been hastily constructed from plywood and tenting material when the Battalion was relocated to its present location. The first set of clinical buildings to be started after my arrival was the new operating room complex. The Navy Seabees were just starting to construct an OR/ICU complex that would consist of three spacious air-conditioned Quonset huts with concrete floors in a U-shaped configuration. The Quonset hut at the base of the U would become the ICU/recovery room, and each of the two Quonsets forming the upright components of the U would house two good-sized ORs separated by a scrub sink area with spacious storage shelves. The open end of the U-shaped Quonset complex opposite the ICU/recovery room was approached by a boardwalk connecting it with the exit from X-ray that was now housed in a new hardback structure. Between the two vertical components of the U was a spacious lighted paved area where pre-op patients on litters could accumulate if necessary while awaiting surgery. This area was spanned by a corrugated sheet metal roof so that pre- and post-op patients would be protected from the weather while being moved from X-ray, into an OR and then finally to ICU/recovery room. One end of ICU/recovery room opened through double doors out to the area where patients would eventually be loaded onto ambulance buses destined for Danang Air Base and out of Vietnam. From doors at the opposite end of ICU/recovery room, it was only a short journey through the new hardback triage tents and to the helicopter pad to accommodate certain post-op patients which had to be medevaced out of Charlie Med by helicopter.

Just as the first ORs were sandbagged, so was the new OR complex sandbagged for the same reason.

The boardwalk from the open end of the U-shaped OR complex connected not only to X-ray but also to the laboratory and blood bank and to the central supply hardback. Here in central supply, instruments and other sterile supplies were readied for the OR. Connecting with central supply was a sizable medical supply hardback structure. At the far end of central supply was the 'clave tent where several gasoline-fired autoclaves often operated night and day sterilizing surgical instruments, gowns, drapes, and irrigating fluids for the OR. Because the autoclaves produced an awesome roar when operating, newly arrived OR techs faced the 'claves with certain fear and trepidation. But the 'claves also radiated heat. During the surprisingly cool nights which winter sometimes brought to us, a litter placed on the floor near each 'clave gave several OR techs a snug place for a little much-needed sleep.

Three enlisted lab techs usually manned the laboratory. One of them was particularly adept at reading malaria smears, but all three were masters at the art of setting up large amounts of blood for transfusion. When casualties arrived at Charlie Med, these techs knew from experience how much blood to set up. In one bizarre scene of the TV pilot episode of M\*A\*S\*H, surgeon Hawkeye Pierce looks down at a vintage electrocardiogram machine spitting out a tracing showing only square calibration marks, not cardiac tracings. He then shouts, "This patient is in shock! Get us some O-negative blood!" O-negative blood is supposed to be the universal donor type that can be transfused into any patient in an emergency without being cross-matched. Though a few of our patients would require greater than 50 units of blood while in the OR, we did not resort to using un-cross-matched O-negative blood. We learned that casualties' blood volume could be restored on arrival with aggressive IV crystalloid fluid



therapy sometimes supplemented with serum albumin. Our adept lab techs would have adequate amounts of cross-matched blood ready in remarkably short order.

Our blood supply was stored outside the lab in a real clunker of an old refrigerator, but as long as we had electrical power, the ancient blood bank refrigerator never failed us. Occasionally we eyed our fluctuating blood supply with real concern, but we never experienced an emergency situation based on a depleted whole blood supply. Blood was usually less than a week old when we received bulk supplies of it at any hour of the day or night via Danang Air Base. We were told that most of our whole blood supplies had been collected from our active duty personnel and their spouses who were permanently stationed in Japan, the Philippines, and on Guam and Okinawa, though some did come from the States. Little blood would have to be discarded as it reached the end of its maximum 3-week shelf life.

During quiet periods our surgeons performed some humanitarian corrective surgery on friendly indigenous personnel. Occasionally a wounded Vietnamese child would be brought in along with wounded Marines. As a second priority, we provided these Vietnamese what care they needed. If blood transfusions were required during surgery, we then would ethically use blood that was approaching the end its shelf life with absolutely no untoward consequences.

Navy medical researchers at NSA Hospital were experimenting with new technology whereby fresh blood could be frozen and held indefinitely until it was reconstituted and readied at any time for transfusion when needed. That state of the art technology was never made available to Charlie Med in 1966.

Occasionally, after a casualty in the OR had received a dozen or so units of banked blood, it was noticed that, rather than clotting promptly, his wounds would continue to ooze dangerously. On those occasions, we learned that ultra-fresh blood contained some of the missing labile clotting factors. Transfusing several units of blood that was so fresh that it had not had the chance to cool while being cross-matched often had dramatically favorable results. Sometimes we called in six or so Marines of the correct blood type from some nearby non-combatant unit, even at night, to be on-the-spot blood donors. Each Marine's dog tags are required to state his blood type, but this information was not 100 percent reliable. Sometimes, several units of ultra-fresh blood were drawn from willing members of the Charlie Med staff. I once had the opportunity to shed a unit of my own A-positive blood and then pump it immediately (after being cross-matched) into a Marine in ICU/recovery room who was still oozing post-operatively from his extensive wounds. The results were favorable.

Although the transmission of hepatitis and malaria was of some concern to those of us who occasionally pumped ultra-fresh blood, we fortunately had no concern about HIV.

X-ray facilities were vital to our work at Charlie Med. Practically every casualty destined for the OR would require X-rays. Except at the very beginning, we had two field model X-ray units housed in the single X-ray hardback structure. Although there was lead shielding around the controls for the X-ray techs, there was absolutely no shielding in the rest of the structure. The X-ray tables were placed end to end separated only by a few feet of space. With no shielding, non-essential personnel always attempted to vacate the X-ray hardback when exposures were being made. The only one to receive a trace of gratuitous radiation would be a Marine lying on the other table. In today's hospitals, X-omat machines process and spit out dry X-ray films moments after exposure. Not so in a combat zone. Our X-ray techs used the old reliable wet method of processing films. The biggest problem was that the films were very slow to dry.

Charts or individual medical records were only sparingly maintained at Charlie Med. There was certainly no



Photo courtesy of author

Aerial view of Charlie Med, October 1966.

provision to dictate anything for transcription. Most likely, the first entry on a patient's chart would be the surgeon's brief hand-written operative note followed by the ICU corpsmen's nursing notes. We kept no anesthesia records so the surgeon included a few words about the type of anesthesia used, how it proceeded, and how much blood was transfused.

Transfusing 10-20 units of blood was nothing at all unusual when we were caring for the many casualties who had had large amounts of muscle mass destroyed by an exploding landmine. Since there was no anesthesia record on which each numbered unit of blood would be recorded, empty blood bags were stacked on the floor in piles of five to be counted and recorded at the end of the procedure. On rare occasion, a casualty received 50 or more units of blood in the OR. His name was then entered on a small cardboard plaque reserved for that purpose.

Banked blood is, of course, cold though we attempted to warm it while transfusing it by pumping it through a length of IV tubing immersed in a container of tepid water. The air-conditioning in the new ORs was quite efficient, making it more comfortable for the surgical teams, but during a long procedure, a patient's body temperature would often drop significantly as a result of the cold transfused blood and air-conditioning. By itself, this was not especially significant, though it would delay his recovery from anesthesia. We had no high-tech means to warm the patient in ICU/recovery room, which was also well air-conditioned, so our only option was to leave the patient intubated and on a ventilator, cover him with warm blankets and direct the warm rays of several incandescent lamps onto him. In time, he would regain his ability to shiver and create body heat and recover completely.

Anesthesiologists have a compelling desire to monitor a patient's blood pressure during surgery. Too often, a casualty's injuries involved all four extremities making blood pressure determinations impossible. Especially difficult was such a patient who had to be placed in the prone or face-down position during surgery. These patients normally had a urinary catheter connected to a plastic bag. Urine output is a somewhat reliable indicator of whether or not we were keeping up with blood replacement. Also, a large plastic needle inserted into a neck vein allowed us to monitor venous pressure during surgery. Venous pressure would drop if we were getting behind on blood replacement.

In the 21st century, administering anesthesia in hospitals for major cases without using a mechanical ventilator is almost unheard of. At Charlie Med, we had only one

oxygen-powered Bird respirator for this purpose, but it was normally reserved for use in the ICU/recovery room. Our only option was to squeeze the bag on the anesthesia machine by hand the old-fashioned way. We had one anesthesia corpsman to assist with replenishing supplies, pumping blood, and squeezing the bag, but when we were busy, he was spread thin among the four ORs. I recall one long case during which a Marine pulled up a stool and squeezed the anesthesia bag rhythmically for me while I pumped blood. Our anesthesia corpsman could also assist by monitoring one of two stable patients to whom the anesthesiologist had administered a spinal anesthetic or axillary block in adjacent ORs.

Our oxygen, including that used for anesthesia machines and for powering the Bird respirator, was aviation-grade oxygen liberally provided to us by the Air Force at Danang Air Base. I have heard that aviation-grade oxygen is prepared to stricter specifications than medical oxygen. We used large amounts of nitrous oxide, but we never had an inadequate supply of those blue tanks.

We anesthesiologists who were recently trained in large medical centers believed that we simply had to have volatile anesthetic agents such as halothane, but our primitive field model anesthesia machines had no provisions for vaporizing it. I was delighted when the anesthesia staff at Ohio State University where I had trained sent me an unsophisticated but very functional halothane vaporizer. Explosive anesthetic agents such as cyclopropane and ether were still in vogue at home in the '60s, but, of course, they had no place whatsoever in Vietnam.

Our only other major anesthesia supplies were spinal sets, Pentothal, and a few drugs and supplies used during anesthesia. These were obviously high-priority items in the supply system and we never experienced a critical shortage. No supplies, however, were ever wasted. There were some less common anesthesia medications and supplies that I believed a fully trained anesthesiologist must have in a combat zone, but we did not have them. Back at Portsmouth Naval Hospital, Commander Tweedie Searcy prepared a "CARE Package" of those supplies and shipped it off to me. She had wrapped each item in non-radio-opaque prep sponges, and used more of those same sponges for packing material. Our OR techs were apparently short on those non-radio-opaque prep sponges, so as I unpacked my "CARE Package" like a kid at Christmas, the perpetually austere OR techs refolded the sponges and sterilized them for use in the OR. Perhaps in her wisdom, Tweedie knew that these sponges would be used to advantage.

Each of us left Vietnam with his own favorite war story. Mine was a story of taking care of a Marine whose only injury was that of having part of his mandible or lower jawbone destroyed in a firefight. When he lay flat on his back, the heavy soft tissues of his tongue and neck, which were no longer supported by his mandible, would drop and obstruct his airway. He discovered that he could breathe only while up on his hands and knees so that gravity would then help keep his airway open. While corpsmen steadied the patient on his hands and knees on the OR table, I dropped to my knees on the floor so that I could look up at the Marine's face. I uneventfully performed what is known as a blind nasal intubation, slipping an endotracheal or breathing tube through his nose and into his trachea or windpipe. He could then be safely returned to his back for the induction of anesthesia. At the conclusion of the case, a tracheostomy was performed.

Another interesting case in the OR involved a Marine who was attempting to launch a white phosphorus or "Willy Peter" illuminating flare but the unignited flare was unfortunately misdirected into the space between his flak jacket and his chest wall. The flammable part of the flare, the casing, and the cloth parachute which was supposed to slow the burning flare's fall back to earth, were lodged in his chest cavity. With Marines in the OR to take custody of the highly flammable and spontaneously combustible white phosphorus, he was quickly anesthetized and his chest opened with minimal prepping and no draping. I have slides of the bloodstained flare components as they were being removed, without igniting, from that fortunate Marine's chest cavity that night. How do I know it was at night? Illuminating flares are not launched in the daylight. For those who might wonder how white phosphorus is kept from bursting into flame, it is dropped into a container of copper sulfate solution. The ingredients for this solution were always kept on hand in the triage tent.

The four ORs were at the center of Charlie Med's functions. Most boardwalks seem to lead to the ORs. During periods of heavy casualties, the ORs were never idle. Thirty-two to thirty-six hours of work without sleep proved to be our practical limit. Beyond that, illogical decisions—or no decisions at all—replaced logical decisions. Fortunately our personnel resources usually were sufficiently on the plush side so that medical personnel were sent to get a little sleep after 30 or so hours of continuous work, even if it meant shutting down an OR briefly between cases.

In Vietnam's high humidity, clean and thoroughly dry utilities (uniforms) were precious commodities, even while living in the relative luxury of a medical battalion. No surgeon or OR tech wanted to get a set of fairly clean somewhat dry utilities blood-stained unnecessarily while in the OR, so they usually stripped down to skivvie shorts and combat boots or rubber thong sandals prior to scrubbing for major cases in the OR. One of our finest OR techs always scrubbed wearing only a surgical mask and sandals, and nothing more, until he donned a surgical gown. Toward the end of 1966, scrub suits began to arrive through the supply system. We realized that the supply system, which served us quite well, had finite limits, so items that we needed desperately to save lives were ordered first.

Late in the summer of 1966, a Marine-green sign emblazoned with the words MAYO CLINIC appeared over the main entrance to the ORs. To my knowledge, it was never removed.

The 3rd Marine Division was commanded by two successive commanding generals in 1966, but of the two, LGEN Lew Walt was the more visible at Charlie Med by far. When post-op casualties were about to be medevaced out from Charlie Med, LGEN Walt, whose headquarters were about a mile and a half away, would usually visit the ICU/recovery room and any other wards where there were wounded Marines and corpsmen. He insisted on pinning Purple Hearts onto as many of the wounded Marines as possible as they departed. It was as if he saw each Marine as sort of a son.

After I had returned to Portsmouth Naval Hospital in 1967, LGEN Walt was a guest speaker at a Navy Trauma Symposium sponsored by the hospital. His speech included abundant praise of the work that Navy medical personnel at Charlie Med—and at Alpha Med, Bravo Med, and Delta Med—had done in Vietnam. And he praised all the hospital corpsmen and general medical officers who had valiantly lived and died with his Marines in the field. I honestly don't recall having had a single conversation with LGEN Walt in Vietnam though I saw him often, but when we crossed paths at the Trauma Symposium, I got a hearty Marine Corps slap on the back. "Great to see you again, Doc. How are you doing?" said he. That sort of made me feel good. (To be continued) □

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Dr. Mahaffey is retired and resides in Upper Sandusky, OH.



# NMC Pearl Harbor Streamlines Injury Care

LCDR Karlwin Matthews, MC, USNR

**M**ilitary service is a physically demanding occupation. Service members are continually at risk for various kinds of injuries. Time that injured Sailors and Marines spend away from their jobs affects military readiness and impacts the mission of national defense.

Work tasks and other physically demanding activities can stress and fatigue the muscles, tendons, and ligaments, predisposing them to a musculoskeletal injury, a term given to a category of conditions involving muscle weakness and pain. Musculoskeletal injuries, especially involving the back, shoulders, legs, and ankles are the most common non-battle injuries for Sailors and Marines. These injuries account for up to 40 percent of all sick call visits on board Navy ships.

Active military members, especially Marines, are elite athletes. With this in mind, Sports Medicine and Reconditioning Team (SMART) Centers were established with the commitment to support the Return to Readiness concept. The SMART approach to the diagnosis, treatment, and reconditioning of musculoskeletal injuries utilizes sports medicine trained physicians, physician assistants, physical therapists, physical therapy technicians, and hospital corpsmen who receive on the job training to rehabilitate injured mili-

tary service personnel and to expedite their return to work.

The SMART Center at Naval Medical Clinic Pearl Harbor, HI, is the Navy's first pierside center of its kind. The center first opened on 18 July 2002. Located within 1,000 yards of the pier, the SMART Center provides easy access for shipboard personnel. This unique center replaces conventional treatment of musculoskeletal injuries with a multi-disciplinary approach that allows the injured Sailor or Marine to be medically evaluated, diagnosed, and treated. The main goal is to focus on managing injuries and educating patients on ways to prevent further injuries. The injured patient works with a team consisting of sports medicine doctors, physician assistants, physical therapists, physical therapy technicians, and other corpsmen staff to develop and implement a treatment plan that focuses on recovery and return to duty. Using contemporary treatment methods, the SMART staff places the patient on an individual treatment program for his or her specific injury while maintaining the patient's cardiovascular fitness. Combining treatment of the injury while preserving the overall physical fitness expedites return to full duty without risking further injury.

Primary care managers send their injured Sailors and Marines to the

SMART Center for medical evaluation and treatment without having to wait for an appointment to be scheduled. Prior to the establishment of the SMART Center, military members would usually have to wait 3-4 weeks to be evaluated by a medical expert on musculoskeletal injuries and an additional 2-3 weeks before they were seen in physical therapy to initiate their rehabilitation. The SMART Center has substantially reduced the waiting time with nearly 50 percent of patients seen within 3-4 days of an injury and approximately 10 percent seen the same day of the injury. Timely diagnosis and treatment helps to reduce pain, swelling, and stiffness of the injured area. The benefit is an accelerated return of range of motion, strength, and mobility.

Reconditioning therapy and training starts with specific therapeutic interventions designed to reduce pain and inflammation and enhance mobility and healing. The SMART Center staff tailors a treatment plan for each patient's specific needs and abilities. The team approach includes educating the patient on the specifics of his or her injury, a personal treatment plan, and avoiding future injury. Active patient involvement is a key element of the SMART Center concept. Members are expected to take ownership of their injury and play a major role in the treatment process.

The patient is required to demonstrate proficiency in the specific exercises designed by the staff. The individual advances through progressive exercises that correspond to the stages of healing. According to LT M. Rachel Oden, Physical Therapist and Division Officer of the SMART Center at Pearl Harbor, "it is important for patients to understand the specifics regarding their injury and the rationale behind their rehabilitation so that they are more compliant with their therapy." Although patients may be required to spend scheduled time in the SMART Center to receive assistance with their exercises or specific modality treatments, such as ultrasound, electrical stimulation, traction, or injections, they must also spend a significant amount of time exercising independently in order to receive maximum benefit from their treatment program.

In addition to evaluating and treating injured Sailors and Marines, the Pearl Harbor SMART Center extends injury prevention services to the fleet by providing fundamental injury-prevention training to active military members to help them avoid work-related and recreational injuries. Examples of classes include: Fitness/Injury Prevention, Stretching and Flexibility, and Training to Run.

The SMART Center also partners with the Navy Exchange to educate military members on selecting the appropriate athletic footwear to prevent injuries to the hips, knees, ankles, and feet. The SMART Center maintains a display of the athletic footwear that the local Navy Exchange has in stock. The SMART staff can determine the patient's foot type (e.g., flat-footed, high-arched) and make recommendations on a proper athletic shoe.

In the fiscal year 2000, approximately 42 percent of medical releases of members from Navy active duty

were due to musculoskeletal injuries. During its first year of operation, the Pearl Harbor SMART Center reduced the number of Sailors placed on limited duty by 15 percent and those members submitted for PEB by 22 percent. Currently 78 percent of those patients evaluated and treated in the SMART Center return to active duty within 30 days. In the pre-SMART period, this process often exceeded 90 days. Based on the successes experienced by the SMART Center at Pearl Harbor, a second center was opened on 1 April 2003 at Marine Corps Base, HI (MCBH). In addition to the services provided by the SMART Center at Pearl Harbor, the SMART Center at MCBH have Fleet Marine Force (FMF) corpsmen who are attached to operational units temporarily assigned to the SMART Center, MCBH for a period of 6 months. The FMF corpsmen see all acute musculoskeletal injuries from the history taking to treatment plans,

and then present to the sports medicine or physical therapy providers. This knowledge is then taken back to their units resulting in more accurate diagnoses, basic rehabilitation, and a quicker return to full duty. LT Dawn Bowman, Department Head, Kaneohe Bay SMART Center, MCBH, said, "the most recent FMF HM3 sent back to his Infantry unit stated that he couldn't believe how much he had learned, and how often the other E5s and E6s actually came to me for help with musculoskeletal evaluations." The obvious tangible benefits to the SMART Centers' success are the reduction in time for the injured Sailor and Marine to get treatment for musculoskeletal injuries, reduction in lost man-hours through a speedy return to duty, and prevention of future injuries through education. The SMART Center is simply a "smart" concept for Navy medicine. □

LCDR Matthews is Department Head, SMART Center, Naval Medical Clinic Pearl Harbor, HI.



HM2 Newton C.R. Holsapple, PT Tech, applies ultrasound and heat to injured Sailor's shoulder.

Photo by Bruce Omura, PAO, NMC, Pearl Harbor

# Training to Save Lives

JO3 Therese M. Campbell, USN

**F**or more than 200 years medical professionals have been providing medical care to military service members in hospitals, onboard ships and in the field. To this day Navy medical professionals continue to be an essential part of the Navy and Marine Corps team. The initial response and first aid care a Navy medical team provides to injured service members on the battlefield could mean life or death.

Medical professionals haven't faced a large number of combat casualties since the Vietnam War. Years without a sustained conflict, however, have left the Navy with a shortage of doctors, nurses, and hospital corpsmen who have battlefield experience. For most service members, years of relative peace are a good thing, but for medical professionals who deploy in support of operations, such as Iraqi Freedom, the lack of experience is a hindrance. Most of the medical practitioners now being deployed are family doctors, pediatricians, general surgeons, and other specialists with little or no experience in treating traumatic, life-threatening wounds found in a war zone.

"The vast majority of naval medical personnel have not had any trauma experience and their first should not be in the field," said HMC Jess Fender, a Trauma and Surgery Corpsman

Facilitator at Los Angeles County Hospital.

In response to that shortage, the Navy investigated the possibility of training their medical teams at civilian trauma centers for a more in-depth training approach. After researching locations around the country, the Los Angeles County and University of Southern California (LAC+USC) Medical Center in Los Angeles was chosen as the best site to develop a training program with the Navy. Because of the center's significant daily casualty load, which totals more than 7,000 patients annually, it was determined to be an ideal clinical setting and excellent training environment for this program.

The medical center is one of the busiest and best trauma facilities in the country.

"We did a nationwide screening of all Level 1 trauma center's and LAC+USC offered great academics, high volume of patients, and the ability to do hands-on training to fit our criteria," said CAPT Peter Rhee, MC, Director, Naval

Trauma Training Center. "This training is crucial for medical personnel being deployed. The training the rotators (students) are provided with here is to refresh and practice their skills in trauma treatment."

Developed by Rhee, a Navy surgeon, the program has graduated more than 200 students since its inception in September 2002.

The Naval Trauma Training Center's (NTTC) mission is to provide trauma experience and knowledge to Naval medical personnel before they deploy. The students work in the emergency room, operating room, and intensive care unit to learn about the wide range of situations they may



Photo by PH2 Johansen Laurel

**Hospital corpsmen and medical officers assess the treatment and prognosis of a patient with a gunshot wound to the head.**



encounter when sent into the field, such as Iraq and Afghanistan.

"The rotators work and train hard here," said CDR Mary K. Nunley, NC, a Critical Care Trauma Clinical Instructor at NTTC. "They work 12-hour shifts with training and lectures throughout the day. Most of the rotators are here for the training and will deploy shortly, some within a week of graduating from the course."

The program at NTTC is an intense 29-day course for active-duty hospital corpsmen and reserve and active duty Navy doctors and nurses. Each must pass a variety of life support courses in addition to the hands-on training and must have orders to deploy within 9 months. No more than 25 rotators are accepted into the program at one time so the selection is extremely competitive and rigorous. Once selected, the rotators receive orders to report to the center for 30 days and are required to live in onsite hospital trailers at the hospital while participating in the program.

"The medical personnel who attend this course are fully board certified. At LAC+USC, they get the trauma exposure that they need as well as provide support to the hospital's overwhelmed Level 1 trauma and medical care for patients," said Fender.

While enrolled in the program rotators have the unparalleled opportunity to experience hands-on training with a high volume of seriously injured patients and team training on a state-of-the-art computerized simulator. Throughout their training, Navy medical professionals work side-by-side with their military instructors and the hospital staff to tend to patients with real injuries. After the rotators learn about civilian trauma medicine, they are taught combat casualty care, which differs from civilian trauma medicine in that combat care includes

handling trauma patients in a hostile environment in the field. Additionally, equipment is not always readily available. Some of the patient situations the students are exposed to in the program and train on include multiple gun shot wounds, stabbings, or injuries from high-speed motor vehicle crashes, to name a few.

"Our goal here at NTTC is to expose the students to the same or similar types of trauma that they will encounter in the field," said Navy CDR Matthew Camuso, MC, a staff orthopedic surgeon at NTTC. "Although it is unfortunate that inner-city Los Angeles has such a large amount of penetrating trauma, it offers the students a great opportunity to learn how to deal with and handle a possible mass casualty."

In order to provide the best care possible, Sailors are trained to function as a team. Whether on the battlefield or in an emergency room, every procedure, resuscitation, and surgical maneuver needs to be practiced until the team is able to work together to correctly and confidently respond to any type of trauma.

"In a trauma situation, it doesn't matter how good you are in the medical profession; you need to work and function as a team to be successful," said Rhee.

HM3 Davitri Marshall, one of the 22 rotators currently attending the program, noted the teamwork involved. "During this course I got to work with the medical team that I will be working with in the field," he said. "We have learned how to work as a team here. The program also mentally prepared me for the type of injuries I will be exposed to. Before this course, I had never seen or worked in this type of environment."

Marshall is scheduled to deploy to Djibouti in the near future and

is appreciative of the training he's received.

According to CAPT Paul Rast, MC, an emergency medicine specialist, who just completed the course at NTTC, the trauma care that a doctor, nurse, or corpsmen provides could mean life or death to an injured Sailor or Marine. "The main purpose we are attached to a combat unit is for that reason—'saving lives,'" he said. "You are always going to have injured service members who won't make it, but it is our job to do what we can with the resources we have to prevent that."

The training the program provides is an example of the incredible teamwork between the military and civilian medical communities. It provides solid, real-world experience and helps the military and the hospital by providing extra doctors and nurses to support urban combat zone emergencies, which in turn helps prepare them for a military combat zone they could be assigned to anywhere in the world.

NTTC has provided hundreds of rotators with a unique lifetime experience that has enhanced their professional skills and knowledge that will be vital to Navy medicine for years to come. More than 140 trauma team graduates are already bringing their newly enhanced skills to the fleet and approximately 100 more Navy medical professionals will have the opportunity to experience the dynamic, fast paced training unmatched by any other military medical facility. □

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JO3 Campbell is assigned to the Navy Public Affairs Center at Naval Base, San Diego.

# Population Health Navigator Charting the Course in Population Health Management for Navy Medicine

CAPT Bruce K. Bohnker, MC, USN  
LCDR Annette M. Von Thun, MC, USN  
CAPT Elizabeth Ruschmeier, NC, USN (Ret.)

Navy medicine continually strives to improve the quality of healthcare delivery while maintaining cost-competitiveness.<sup>(1,2,3,4)</sup> For Navy medicine, this involves implementation of the BUMED Business Plan (BBP), which is available at <https://dataquality.med.navy.mil/reconcile/default.asp>. The BUMED Business Plan emphasizes the need to maintain clinical quality while ensuring a balanced budget.<sup>(5)</sup> These metrics are based on the Healthy People 2010 priorities established by the Centers for Disease Prevention and Control and HEDIS benchmarks. The Navy Environmental Health Center (NEHC) in Portsmouth, VA, is Navy medicine's designated program manager for population health.

Better capabilities for population health are required to support these efforts, with the ability needed to analyze the health status of their populations. That analysis must provide comparison to national standards established by the National Committee for Quality Assurance (NCQA) referred to as Health Plan Employer Data and Information Set (HEDIS)

Table 1: Current BUMED Clinical Metrics
For diabetic patients age 18-75, hemoglobin A1C of less than or equal to 9.5 percent
For diabetic patients age 18-75, LDL cholesterol less than 130 mg/dl
For asthmatic patients age 5-56, use of long-term medications
For women age 52-69, current mammogram in the previous 24 months

metrics.<sup>(6)</sup> These standards are used by large healthcare organizations to measure and compare their performance. The BUMED business plan has initially established four clinical quality metrics for monitoring performance which are shown in Table 1. These were selected in cooperation with the Evidenced Based Healthcare Advisory Board, the Diabetes Action Team, and the Asthma Action Team. These metrics were chosen because they represent opportunities for primary, secondary, and tertiary prevention. They are characteristic of preventive, acute, and chronic care conditions seen at most military treatment facilities (MTF) across Navy medicine.

The Population Health Navigator (PHN) program was implemented to

support population health programs in Navy medicine.<sup>(7)</sup> It delivers standardized metrics and predefined queries for five clinical preventive services and ten diseases or conditions. Developed by the Air Force, PHN is a web-based medical informatics tool that provides dual functionality. First, it provides HEDIS metrics as an evaluation of a command's clinical performance. Secondly, it delivers patient-level information in easy-to-use action lists. Action lists can be downloaded into spreadsheets and databases to assist medical personnel with patient tracking and population health improvement initiatives. These are based on Composite Health Care System (CHCS) information. The PHN program includes built-in help functions, methodology documenta-

tion, and background information to assist new users of the program. PHN users must comply with Health Information Portability and Accountability Act (HIPAA) security measures (8), and be familiar with current population health efforts.

Although commands are able to use other medical informatics programs (e.g., SQL servers, local databases), BUMED's clinical quality metrics are obtained from the HEDIS metrics as reported in the PHN. The four designated metrics (along with enrolled population size) are presented in a graphic dashboard format. These graphs allow comparison with other MTFs, Navy medicine averages, and national benchmarks for each of the clinical quality metrics. It includes drill-down capability to the level of the individual clinic. The dashboards will be updated quarterly and are available at <https://dataquality.med.navy.mil/reconcile/pophealth/>. Population health tools are also available as a resource kit on Navy Medicine Online (<https://navalmedicine.med.navy.mil/med.cfm?selTab=Toolkits>). Additional information and assistance is available on the NEHC Population Health Navigator website at [http://www-nehc.med.navy.mil/hp/ph\\_navigator/index.htm](http://www-nehc.med.navy.mil/hp/ph_navigator/index.htm). PHN accounts may be obtained by contacting CAPT Elizabeth Ruschmeier at [emruschmeier@us.med.navy.mil](mailto:emruschmeier@us.med.navy.mil) or 202-762-3139.

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Dr. Bohnker is Director for Population Health, Navy Environmental Health Center, Portsmouth, VA.

Dr. Von Thun is Population Health Navigator Program Manager, Navy Environmental Health Center, Portsmouth, VA.

CAPT Ruschmeier is Population Health Educator, Bureau of Medicine and Surgery (M3M2), Washington, DC.

**Table 2: Definitions and Acronyms**

Health Plan Employer Data and Information Set: HEDIS: a set of standardized performance measures designed to ensure that purchasers and consumers have the information they need to reliably compare the performance of managed healthcare plans

Health Insurance Portability and Accountability Act of 1996. HIPAA: Allows government to set standards for the electronic exchange of healthcare data; and to specify measures required to protect the security and privacy of personally identifiable healthcare information

Healthy People 2010: HP 2010: CDC's prevention agenda for the nation. It is a statement of national health objectives designed to identify the most significant preventable threats to health and to establish national goals to reduce these threats

National Committee for Quality Assurance: NCQA: NCQA is an independent, non-profit organization whose mission is to improve healthcare quality everywhere. NCQA evaluates healthcare through accreditation, the Health Plan Employer Data and Information Set (HEDIS®); and through a comprehensive member satisfaction survey. Almost 90 percent of all health plans measure their performance using HEDIS

Population Health: An approach to health that aims to improve the health of the entire population and to reduce health inequities among population groups

Population Health Navigator: PHN: web-based medical informatics tool that has standardized metrics and disease





Flight deck personnel carry Mr. Giovanni Cutugno to the ship's medical facility aboard USS *George Washington* (CVN-73). Cutugno was transported by helicopter from the Italian merchant vessel *Isolaverde*, after the captain of the Italian vessel radioed *George Washington* stating that he needed medical assistance.

# Navy Medicine's Vision

**5. Joint Medical Capabilities.** Navy medicine will continue to collaborate with our counterparts in the other services to ensure optimal Department of Defense mission achievement. We will be fully integrated with local, state, and federal agencies to respond to homeland security threats. The military health system plays a critical role in national security and we will be trained, fully integrated with our colleagues, and absolutely ready to respond. □

Navy medicine will keep Sailors and Marines fit to fight, will serve as a defensive weapon system protecting the warfighter and deterring threats, will provide flexible medical support in combat overseas and emergency response at home, and will provide incomparable health services economically to all whom we are honored to serve.

Navy medicine's priorities. To achieve this vision and provide Force Health Protection for those entrusted to our care, Navy medicine has five priorities—all will be achieved through expert leadership, education, and research:

**1. Readiness** — aligned and agile. Our most important priority is readiness. To be ready, Navy medicine must be responsive, agile, and aligned with the operational forces. We must have the right people with the right capabilities continually ready to deploy in support of the Navy-Marine Corps team. The global war on terrorism has challenged us to broaden our view of readiness. Our MTFs must be prepared to respond to any contingency, to provide expert care to casualties returning from theater, and be ready to support the nation's needs in collaboration with the national disaster medical system.

**2. Quality, Economical Health Services.** Navy medicine will continue to provide the finest, cost-effective health services in the world to America's heroes and their families—those who currently serve, those who have served, and the family members who support them.

**3. One Navy Medicine** — Active, Reserve, and civilian. Navy medicine is one team. We must seamlessly integrate the talents and strengths of our entire workforce to accomplish our mission of force health protection.

**4. Shaping Tomorrow's Force.** Our human capital strategy must provide the right force to accomplish our mission. This means refining and shaping our force by recruiting, training, and retaining the right mix of health professionals.



Photo by PH Daniel Woods

HM2 Patrick C. Mangaran, swabs a bacteria culture for further examination. Patrick is USS *Tarawa's* only medical laboratory technician and is responsible for all blood and culture tests performed onboard the ship.

## In Memoriam



**V**ADM George M. Davis, Jr., MC, USN (Ret.), 25th Surgeon General of the Navy, died on 1 October at his home in Florida. He was 88.

The son of a country doctor, George Monroe Davis, Jr. was born in Bixby, OK, on 6 June 1916. He attended Northeastern State Teachers College of Oklahoma and later graduated from the University of Oklahoma with a Bachelor of Science in Medicine. Upon graduating with an MD degree from the University of Oklahoma School of Medicine, he joined the Navy in 1939.

Dr. Davis's first assignment was at Naval Hospital San Diego, where he interned until August of 1940. He then joined the 2nd Marine Brigade, Fleet Marine Force at the Marine Corps Base in San Diego. In December of that year, he transferred to the 2nd Defense Battalion at San Diego, where he remained until January 1941 when he received assignment to the U.S. Marine Defense Force, Advance Detachment, Dutch Harbor, AK. It was during that tour when the attack on Pearl Harbor occurred.

During World War II, Dr. Davis served with the 4th Marine Division as head of the Malaria Epidemic Control Unit in the Pacific. For his outstanding achievement as head of this unit during the U.S. landings at Roi Namur

and Iwo Jima, he was awarded a Navy Commendation Ribbon with Bronze Star and the Presidential Unit Citation Ribbon with star.

After the war, Dr. Davis served at the Navy Dispensary in Washington, DC. He attended post graduate instruction in internal medicine at Northwestern School of Medicine. Later he served as Chief of Medical Service at the Naval Hospital Annapolis, and later at Naval Hospital San Diego. In 1952, near the end of the Korean War, Dr. Davis was Chief of Medicine on board USS *Haven* (AH-12). From 1954 to June 1965, when he was promoted to the rank of rear admiral, Dr. Davis served as Chief of Medical Services at Naval Hospital Great Lakes, Naval Hospital Oakland, and as Executive Officer at U.S. Naval Hospital Yokosuka, Japan. In January 1965, he was selected as Commanding Officer of the National Naval Medical Center, Bethesda, MD, where he served until he was selected as Deputy Surgeon General in 1968.

In January 1969, Dr. Davis was appointed Surgeon General, and assumed his duties on 1 February 1969.

His tenure, as the 25th Surgeon General was highlighted by his innovative and far-sighted management of the Medical Department which resulted in many significant improvements to the Navy's healthcare delivery system. VADM Davis directed an active program of constructing new medical facilities and refurbishing others to ensure that they were capable of providing the broad range of services required by increasingly complex practice of Navy medicine. He provided additional educational and training programs for the Navy's healthcare personnel and directed the establishment of a Physician Assistant Program to provide the additional training to selected members of the Hospital Corps. During his tenure, the program of regionalizing medical resources resulted in the establishment of the first Naval Regional Medical Center. VADM Davis was certified by the American Board of Internal Medicine. He was a Fellow of the American College of Physicians, a Fellow of the American College of Chest Physicians, and a Fellow of the American College of Cardiology. He also served as governor for the Navy of the American College of Cardiology and Chief Medical Consultant for the Office of Disability Determination where he served for 20 years.

He wore the American Defense Service Medal, American Campaign Medal, Asiatic-Pacific Campaign Medal, World War II Victory Medal, National Defense Service Medal, Korean Service Medal, United Nations Service Medal, and the Philippine Liberation Ribbon. □



## Book Review

*Naval Surgeon: Life and Death at Sea in the Age of Sail* by J. Worth Estes. Science History Publications, Canton, MA. 1998 256 pages.

The early U.S. Navy was a small but dynamic community chock full of colorful figures such as John Paul Jones and Stephen Decatur. But dare we forget that Navy medicine was not without its own giants who set sail in the dawn of the same navy? Among them was Edward Cutbush, author of the first U.S. military medical text and founder of the Navy's first foreign hospital; Jonathan Cowdery, a surgeon who survived a 3-year captivity with the Barbary pirates; and Usher Parsons, who has been referred to as the "Horatio Alger" of Navy medicine. Perhaps there is even room on this list for Surgeon Peter St. Medard, whose life in the Navy is documented in J. Worth Estes' recent book, *Naval Surgeon: Life and Death at Sea in the Age of Sail*.

Estes does not attempt to cement St. Medard's place in the pantheon of naval medical greats. Instead he uses St. Medard as a window to the world he lived in—18th and 19th century America. Born on 12 March 1755 on the French island Ile d'Oleron as Pierre St. Medard, this early "American" came from a long line of military doctors. In 1778, St. Medard, then a surgeon aboard the merchant ship *Le Francois*, was captured by the British tender *Dunmore* off the coast of Virginia and imprisoned aboard the notorious HMS *Jersey* anchored in Wallabout Bay, where the Brooklyn Navy Yard was later established. According to some estimates, the *Jersey* housed up to 1,200 prisoners at once. Even the shortest stay aboard the crowded disease infested prison ship proved a death sentence to many. Somehow St. Medard persevered. After 6 months he and his fellow crew members were exchanged for British prisoners.

Although, the British sent Dr. St. Medard to the local French consul in Boston to be repatriated, he refused to return to his country. His enmity of the British, coupled with his support of the American colonial cause, fueled a new career, that of Continental Navy surgeon. He anglicized his name to "Peter" and joined the ranks of the rebels as a surgeon aboard the Continental frigate *Deane*.

Though clichéd, it is important to look back in history at the lives of people like St. Medard to see how far we have come. St. Medard served in a Navy where grog rations were the norm and flogging was used to keep the disobedient sailor at bay. In the British Navy, and undoubtedly in the American, surgeons often were tasked with certifying the fitness of a crew member sentenced to be flogged and ordered to stand by to ensure that the prisoner was able to withstand the barrage. While aboard the frigate *Constitution*, St. Medard witnessed numerous floggings including a startling six in 1 day!

We learn in *Naval Surgeon* that scurvy was still a problem aboard sailing vessels years after Drs. James Lind and William Cullen's research with antiscorbutic remedies. While serving on the frigate *New York* in the Mediterranean, Surgeon St. Medard recorded that his treatment for the dreaded vitamin deficiency consisted of "Peruvian bark, wine, elixir vitriol, vinegar lemonade." Although not always effective, Estes reminds us that citrus fruits were not issued routinely aboard American warships until 1812.

Estes explains that *Naval Surgeon* was conceived after visiting the USS Constitution Museum library and finding a leather bound volume entitled *Physical and Chirurgical Transactions of Dr. Peter St. Medard on Board the U.S. Frigate New York*, dated 1802-1803. The text served as a "Rosetta Stone" to the diagnoses of the physical ailments afflicting early 19th century sailors as well as precipitating the question: who was Surgeon St. Medard? Like a good history detective J. Worth Estes has brought the past closer with a good biographical study of a relatively obscure military medical man. In 256 pages, including two appendices, *Naval Surgeon* is a fascinating read for anyone who has enjoyed Patrick O'Brien novels or is intrigued with the early 19th century, the so called medical "age of miracles." □

—André B. Sobocinski, Assistant Historian and staff writer for Navy Medicine, Bureau of Medicine and Surgery (M00H), Washington, DC.



## Announcements

### OPERATION IRAQI FREEDOM AWARDS

#### Navy Cross

HA Louis Fonseca, USN, 12 August 04

#### Bronze Star

HM2 Michael Atkinson, USN, 12 July 04

HM3 Kenneth Ball, USN, 12 July 04

HM2 Alan Demeter, USN, 12 July 04

HM3 Chad Peabody, USN, 12 July 04

HM3 Clifford Salviejo, USN, 2 March 04

DTC Bradley Shee, USN, 29 July 04

HMCS William Stone, USN, 29 July 04

## Navy Laboratory Receives National Recognition from the U.S. Environmental Protection Agency

The National Institute for Dental and Biomedical Research (NIDBR), Great Lakes, IL was recognized by the U.S. Environmental Protection Agency (USEPA) for innovative efforts to remove mercury from dental wastewater. During an award ceremony 10 May, NIDBR became one of only 25 national corporations and agencies, including three federal facilities, to be recognized since the EPA's National Waste Minimization Partnership Program was initiated in 2002.

Ms. Janet Haff from USEPA Region 5 (Great Lakes) Office presented NIDBR with a plaque recognizing the command's national achievements in reducing environmental mercury pollution for dental clinics. Partnership under this program indicates an organization has voluntarily achieved a measurable reduction in one of 30 priority pollutants listed by the USEPA.

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# Navy Medicine 1898



Courtesy of LT Eugene Osborn, MSC, USNR

Medal of Honor Recipient Surgeon Middleton Elliot (second row, second from left) standing with fellow naval officers aboard the cruiser USS *New York* (ACR-2).



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